

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)



Applicant's or agent's file reference 0000053702	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP 03/07084	International filing date (day/month/year) 03.07.2003	Priority date (day/month/year) 10.07.2002
International Patent Classification (IPC) or both national classification and IPC C12N15/52		
Applicant BASF PLANT SCIENCE GMBH, et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 18.12.2003	Date of completion of this report 01.09.2004
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP 03/07084

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-32 as originally filed

Claims, Numbers

1-11 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☒ contained in the international application in written form.
☒ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP 03/07084

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 6 (partially)

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 6 (partially)

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/07084

Citations

The documents mentioned in this International Preliminary Examination Report (IPER) are numbered as in the International Search Report (ISR) dated 27.10.03, i.e. **D1** and **D4** correspond to the first and the last document of the search report, respectively. The ISR has been established by this authority.

Re ITEM I (Basis of the opinion)

The application as filed contains a sequence listing consisting of 6 pages (2 sequences).

Re ITEM III (Non-establishment of opinion)

No search report was established for the subject-matter of claim 6b and c. Consequently, preliminary examination has not been carried out for said parts of claim 6 (Rule 66.1(e) PCT). The International Preliminary Examining Authority (IPEA) agrees with the objection put forward by the International Searching Authority (ISA):

The subject-matter of claim 6(b) is directed to a polynucleotide which deviates from the polynucleotide sequence specified in SEQ ID NO:1 due to the degeneration of the genetic code. Reference to the degeneracy of the genetic code only makes sense if the peptide for which the polynucleotide is to encode for is defined by its exact amino acid sequence. However, this is not the case in claim 6(b) (no amino acid sequence given). Thus, a reasonable search and examination could not be performed for the subject-matter of claim 6(b) (Art. 6 PCT).

Claim 6c covers any transgenic expression cassette comprising any nucleic acid sequence which has at least 60% identity with the sequence according to SEQ ID NO:1 and having the desired characteristic of increasing the total oil content in a plant. However, the application provides support (Art. 6 PCT) and disclosure (Art. 5 PCT) for only a limited number of such polynucleotides. Consequently, search and examination for claim 6c have been limited to the polynucleotide according to SEQ ID NO:1.

Re ITEM V (Novelty, inventive step, industrial applicability)

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/07084

1 Novelty (Art. 33(2) PCT)

The subject-matter of claims 1-11 has not been made available to the public by any of the available prior art documents and can therefore be regarded as novel.

2 Inventive step (Art. 33(3) PCT)

- 2.1 The subject-matter of claims 1-11 cannot be derived from the available prior art in an obvious manner and therefore complies with the requirements of Art. 33(3) PCT.
- 2.2 The polypeptide disclosed in **D4** (P47139) is 100% identical in 655 amino acids overlap to the sequence set forth in SEQ ID NO:2 of present application.
- 2.3 The nucleotide sequence disclosed in **D3** (Z49598) is 100% identical in 2251 nucleotides overlap to the sequence set forth in SEQ ID NO:1 of present application.
- 2.4 However, said documents do not disclose or make obvious an expression cassette according to independent claim 5 or a method according to independent claim 1.

3 Industrial application (Art. 33(4) PCT)

Claims 1-11 meet the criteria as set forth by Art. 33(4) PCT.

Re ITEM VIII (Certain observations on the international application)

- 1 The expression "a polypeptide SEQ ID NO:2" is unclear (e.g. independent claim 1). The claim does not refer to "a yeast polypeptide consisting of the amino acid sequence as set forth in SEQ ID NO:2". The same objection applies to e.g. independent claim 5 ("a nucleic acid sequence SEQ ID NO:1").
- 2 Since the function of the polypeptide is not stated in claim 1 or 2, the term "functional equivalent" used in claim 2b makes no sense. The function of the polypeptide is not stated in the independent claims.